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XXXI. *Observations on the State of Population in Manchester, and other adjacent Places, concluded.* By Thomas Percival, M. D. F. R. S. and S. A. Communicated by the Rev. Dr. Price, F. R. S.

Redde, Feb. 2, 1775. **A** VERY accurate survey was completed last year, of the towns of Manchester and Salford, with their respective townships. This spring an enumeration, equally exact and comprehensive, has been made of the whole parish of Manchester, which contains thirty-one townships (exclusive of the two above mentioned) in the compass of less than sixty square miles. The reader is here presented with the particulars of this enumeration.

Tenanted houses,	2371	Under 15,	5545
Families,	2525	Above 50,	1762
Inhabitants,	13786	Above 60,	470
Males,	6942	Above 70,	261
Females,	6844	Above 80,	87
Married,	4319	Male lodgers,	68
Widowers,	232	Female ditto,	51
Widows,	315	Empty houses,	41

The number of persons to a house in Manchester is therefore nearly  $5\frac{4}{5}$ ; of individuals to a family, about  $5\frac{1}{2}$ ; and

and  $\frac{1}{4}$ th of the inhabitants have attained the age of 50. It is unnecessary to point out the difference in the proportions between the town and the adjacent country, as it will appear sufficiently obvious by comparing this account with that of Manchester. The whole number of the inhabitants in the town, township, and parish of Manchester amounts to 42937.

At the close of 1772, an account was collected from every country chapel, both episcopal and dissenting, in the parish, of the baptisms and burials of that year. The former were found to amount to 401, the latter to 246; and there is a presumption that this is nearly the annual proportion of deaths in the parish of Manchester, exclusive of the town and township. For the number of burials in the whole parish was, in the same year exactly 1200; and it has been shewn, that the deaths in the town of Manchester are, one year with another, 958. This sum being subtracted from 1200, leaves a remainder (242) for the country, very nearly equal to 246. And if 13786, the number of people in the parish, be divided by 246, it will appear, that only 1 in 56 of the inhabitants dies annually, whilst the yearly mortality in Manchester is as 1 to 28. Such a striking disparity in the healthiness of a large town, and of the country which surrounds it, granting it to be less than has been supposed, will scarcely be credited by those who have paid no attention to enquiries of this nature. And it must afford matter of astonishment even to the physician and philosopher, when he reflects that the inhabitants of both live in the same climate,

mate, carry on the same manufactures, and are chiefly supplied with provisions from the same market. But his surprize will give place to concern and regret, when he observes the havoc produced in every large town by luxury, irregularity, and intemperance<sup>(a)</sup>; the numbers that fall annual victims to the contagious distempers, which never cease to prevail; and the pernicious influence of confinement, uncleanness, and foul air on the duration of life<sup>(b)</sup>.

“ It is not air, but floats a nauseous mass

“ Of all obscene, corrupt, offensive things.”

ARMSTRONG on Health, book I.

Great towns are in a peculiar degree fatal to children. Half of all that are born in London die under three, and in Manchester under five years of age; whereas at Royton, a manufacturing township in the neighbourhood of Manchester, the number of children dying under the age of three years, is to the number of children born only as one to seven; and at Eastham, a parish in

(a) There are at this time in Manchester no less than 193 licensed houses for retailing spirituous and other liquors, and 64 in the other townships of the parish. At Birmingham, the number of public houses is still greater than at Manchester. A very ingenious friend of mine in that place has computed, that the quantity of malt consumed there in the public houses, requires for its growth, a compass of land which would be sufficient for the support of 20,000 men.

(b) The rev. Dr. Tucker, dean of Gloucester, informs me, “ That were it not for the daily arrival of recruits from the country, his parish (St. Stephen’s in Bristol), and indeed Bristol in general, would be left in a century without an inhabitant, unless the people would betake themselves to better courses.”

Cheshire,

Cheshire, inhabited by farmers, the proportion is considerably less <sup>(c)</sup>.

It is a common but injurious practice in manufacturing countries, to confine children, before they have attained a sufficient degree of strength, to sedentary employments, in places where they breathe a putrid air, and are debarred the free use of their limbs. The effect of this confinement, says an able writer, is either to cut them off early in life, or to render their constitutions feeble and sickly; but the love of money stifles the feelings of humanity, and even makes men blind to the very interest they so anxiously pursue. The same principle of sound policy which induces them to spare their horses and cattle, till they arrive at a due size and vigour, should determine them to grant a proportionable respite to their children <sup>(d)</sup>. And this observation may, perhaps, be extended to the untimely culture of the mind. For too early an application to study impairs the faculties, injures the constitution, and hurts the temper by frequent contradiction. Almost as soon as a boy has acquired the powers of speech, he is shut up many hours every day in a noisome school, secluded from the benefit of exercise and the refreshment of the open air, and tied down to the severe drudgery of learning what serves only, at such a period of life, to over-charge his memory,

(c) See my former paper on Population. Phil. Transf. vol. LXIV. part i. page 62.

(d) See Dr. GREGORY's Comparative View of the State and Faculties of Man.

and

and to destroy his native chearfulness of disposition. Thus the age of gaiety (to use the words of the elegant writer before referred to) is spent in the midst of tears, punishments, and slavery; and this to answer no other end, but to make a child a man, some years before nature intended he should be one.

The reverend Mr. HARRISON, of Chapel in le Frith, has made a survey, at my request, of the inhabitants of Chinley, Brownside, and Bugsworth, three hamlets contiguous to each other, in the parish of Glossop and Peak of Derbyshire. They are four statute miles in length, and three in breadth; and contain 301 males, 310 females; 200 married persons, 15 widowers, 18 widows; 234 persons under fifteen years of age, 121 above 50, and 9 who have attained the age of 80. This enumeration was finished in September 1773.

I have been furnished by the reverend Mr. ASHETON, rector of Middleton, near Manchester, with an account of the births, deaths, and marriages, in his parish, during ten corresponding years of the last and the present century. From 1663 to 1672 inclusive, the deaths were males 180, females 187; the births, males 200, females 188; the marriages 121. The births, therefore, during ten years, only exceeded the deaths in number 21. And the average number of births to each marriage was as  $3\frac{1}{3}$  to 1. From 1763 to 1772 inclusive, the deaths were 499 males, 494 females; the christenings, 802 males, 768 females; the marriages 330. The baptisms, therefore, during this period, exceeded the deaths 577;  
that

that is, near 58 annually. And if no allowance be made for illegitimate births (which, I believe, in this parish are not numerous, and can no where be supposed to equal one fourth of all that are born), each marriage has produced  $4\frac{3}{4}$  children. It is curious to observe the change in the proportion of births to the deaths, and also to the marriages, which has taken place at Middleton (and I have received similar accounts of other places), during the course of the last century. The former may be explained by the greater encouragement to matrimony from the increase of trade; the latter is of more difficult solution; though it is probable, that the warmer cloathing and better fare, which the poor now enjoy, may have contributed to it. Luxury, when carried to such a degree as to enervate the constitution, is unfavourable to population; but plenty of nutritive diet may well be regarded as a source of fruitfulness. The lower class of people in this county formerly lived upon the coarsest food. Wheat, an hundred years ago, was almost unknown to them; and so lately has it been cultivated in Lancashire, that it has scarcely yet acquired the name of corn, which in general is applied only to barley, oats, and rye. Potatoes also are much improved by the present judicious method of growing and propagating them; and they now constitute a most wholesome and nourishing part of our diet. Perhaps likewise the general use of pepper and of other spices may increase the fertility of mankind. But I shall suspend my conjectures for the present. A variety of causes may counteract the

operation of those which I have enumerated, and a considerable number of facts must be adduced, to ascertain, whether the proportion of births to marriages be generally increased in countries advanced from poverty to wealth, by the introduction of trade, or the improvements of agriculture. The instance of Middleton and of one or two places more which first occurred to me, and suggested the preceding observations, is opposed by others which have lately fallen under my notice. And I cannot close this subject better than by giving a view of the facts which I have collected on both sides the question.

A TABLE shewing the proportion of births to marriages in different places, and and at different periods of time.

Middleton.			
Year.	Marriages.	Christenings.	Births to a Marriage.
From 1663 to 1672	121	388	$3\frac{1}{5}+$
1763 1772	330	1570	$4\frac{3}{4}$
Warrington.			
From 1702 to 1722	131	385	$2.9+$
1752 1772	1549	5034	$3\frac{1}{4}$
Pentraeth Parish, Anglesey (c).			
From 1740 to 1747	32	100	$3\frac{1}{8}$
1764 1771	33	149	$4\frac{1}{2}$

(c) Vide Philosophical Transactions, vol. LXIII.

Llanddyfnan



Llanddyfnan Parish, Anglesey (*D*).

Year.	Marriages.	Christenings.	Births to a Marriage.
From 1750 to 1757	28	111	3.9+
1764 1771	32	154	4 $\frac{4}{5}$ +
1547 1554	8	36	4 $\frac{1}{2}$
1620 1627	20	44	2 $\frac{1}{5}$

## Liverpool.

From 1700 to 1710	500	2127	4 $\frac{1}{4}$
1762 1771	4812	10010	2 $\frac{1}{12}$

## Bowden.

From 1653 to 1662	136	573	4 $\frac{1}{5}$ +
1763 1772	369	1300	3 $\frac{1}{2}$ +

I have lately received, from the reverend Mr. Archdeacon Blackburn, rector of Richmond, in Yorkshire, the following account of his parish. From the year 1764 to 1773 inclusive, 452 males and 376 females have been baptized; 299 males and 341 females have been buried. The marriages, during this period, have amounted to 200. In Richmond there are about 600 houses; but the Easter book enumerates only 450 families, and Mr. BLACKBURN computes the number of inhabitants to be 2300. "We have no distempers, he says, "that can be called endemial; and when fevers prevail "in the neighbourhood, few are affected by them in "this town. If any person brings an ague to Richmond, he is generally freed from it in a few days;

(*f*) Vide Philosophical Transactions, vol. LXIII.

“ though the village of Gilling, about a mile and a half  
 “ distant, which stands low, and has a large pool of stag-  
 “ nant water adjoining to it, is visited with this com-  
 “ plaint every spring and autumn. The air of Rich-  
 “ mond seems to be peculiarly unfavourable to con-  
 “ sumptive disorders. Many strangers come hither from  
 “ different parts in the first stage of the *phthisis pulmo-*  
 “ *nalis*; but after thirty-five years experience, I may  
 “ truly say, that not one has recovered, although the ut-  
 “ most care and attention have been paid to their respective  
 “ cases. The natives and constant residents are not sub-  
 “ ject to distempers of the lungs, except when brought  
 “ on by intemperance. But rheumatic complaints are  
 “ very general, especially amongst the senior part of the  
 “ inhabitants. In small corporation towns, like Rich-  
 “ mond, numbers are taken off by excessive drinking;  
 “ but the people here, who live temperately, seldom die  
 “ earlier than in their eightieth year.”

Happening to pass through Sutton Coldfield, in War-  
 wickshire, last summer, I was very much struck with the  
 beauty and apparent healthiness of its situation, and was  
 desirous of knowing the duration of life which the in-  
 habitants of it enjoy. The rector of the parish has, with  
 great politeness and good-nature, gratified my curiosity  
 as far as he is able, by furnishing me with an extract  
 from the church register, and by referring me to the  
 XXXIId volume of the Gentleman's Magazine for the  
 following authentic account of the place, drawn up, I  
 suppose, by himself.

“ Sutton Coldfield is almost full South of Litchfield,  
 “ at the distance of about eight measured miles, by  
 “ which it undoubtedly got its name of Sutton, a con-  
 “ traction of South Town. A remarkable bleak and  
 “ barren common, which lies directly West of it, just  
 “ out of the bounds of the parish, might probably give  
 “ it the additional denomination of Coldfield. The air  
 “ upon that heath, as travellers have declared, is as keen  
 “ and cold as that upon the Highlands of Scotland. The  
 “ parish is nearly oval in its figure, the longest diameter  
 “ seven miles, and the breadth four. The face of it is  
 “ agreeably diversified with gently rising hills, and val-  
 “ lies of tolerably fruitful meadows. It is bounded on  
 “ the North by Shenston, on the West by Barr, on the  
 “ South by Curdworth and Aston near Birmingham,  
 “ and on the East by Middleton. It contains four ham-  
 “ lets; *videlicet*, Mancy, Hill, Little Sutton, and Warm-  
 “ ley. In the year 1630, there were 298 houses in the  
 “ parish; in 1698 there were 310; in 1721 the num-  
 “ ber was increased to 360; which is nearly about the  
 “ number at present. I compute the inhabitants at  
 “ 1800. The register begins in the year 1603. The  
 “ number of christenings for the first twenty years of  
 “ the register was 645; the burials during the same pe-  
 “ riod were 501. The number of christenings for the  
 “ last twenty years (ending at Christmas 1761) was  
 “ 747; the burials 694(8).” If the number of inhabi-

(g) Gent. Magazine for September 1762, p. 401.

tants

tants in this town be rightly computed, the yearly mortality amongst them is not so much as 1 to 51; and every house contains at a medium five persons.

It appears by the observations lately communicated to me by the rev. Dr. TUCKER, that the number of females baptized at the parish church of St. Stephen's, in Bristol, from 1754 to 1774, has exceeded the number of males baptized during the same period of time; and that the like remark has been made in some other parishes of that city. From these facts the learned dean concludes, that Mr. DERHAM's calculation, which supposes the proportion of male to female births to be as 13 to 12, may possibly be erroneous; and he expresses his earnest wishes, that farther enquiry may be made into a subject of so much importance. The following table will shew the result of the few observations which I have collected.

A comparative view of the number of males and females  
baptized in different places.

Places.	Males.	Females.
Difhley, 11 years,	149	145
St. Stephen's parish, Bristol, 20 years,	591	607
Taxal, 15 years,	204	230
Richmond, 10 years,	452	376
Middleton, 10 years,	200	188
Bowden, 10 years,	663	639
Middlewich, 5 years,	229	242
Chapel in le Frith, 10 years,	451	332
Warrington, 1 year,	175	181
Collegiate Church, Manchester, 7 years,	3215	3024
Royton, 10 years,	134	120
Chester, 2 years,	408	415
Total,	<hr/> 6871 <hr/>	<hr/> 6499 <hr/>

This table sufficiently confirms the calculation of Mr. DERHAM, with respect to the greater proportion of male than of female births; but the succeeding table evinces, that the number of females living considerably exceeds the number of males in a variety of places, and that the widows are almost double the number of widowers.

A comparative view of the number of males and females  
in different places.

Places.	Males.	Females.
Manchester,	10548	11933
Salford,	2248	2517
Townships of ditto,	947	958
Parish of Manchester,	6942	6844
Bolton,	2159	2392
Little Bolton,	361	410
Monton,	196	190
Hale,	140	136
Horwich,	149	156
Darwen,	900	950
Cockey,	320	391
Chawbent,	554	606
Ackworth,	340	388
Eastham,	451	461
Chinley,	181	168
Brownfide,	40	47
Bugfworth,	80	95
Total,	<u>26556</u>	<u>28642</u>

A comparative view of the number of widowers and widows in different places.

Places.	Widowers.	Widows.
Manchester,	432	1064
Salford,	89	149
Townships of ditto,	21	42
Parish of ditto,	232	315
Monton,	14	13
Hale,	8	12
Horwich,	9	8
Darwen,	30	48
Cockey,	10	27
Chowbent,	26	43
Chinley,	27	31
Brownfide and Bugfworth,	15	18
Total,	<u>913</u>	<u>1770</u>

The reader will perceive, from these tables, that the proportion of males to females baptized, is nearly as 12 to 11 $\frac{1}{3}$ , or 19 to 18; but that the number of females living is to the number of males as about 11 to 10 $\frac{1}{3}$ , or more exactly as 14 to 13; and that the widows are almost double the number of widowers.